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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/063,978	05/31/2002	Paul R. Granfors	15-XD-6085	3808
23446	7590	10/03/2003	EXAMINER	
MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661			KAO, CHIH CHENG G	
			ART UNIT	PAPER NUMBER
			2882	

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/063,978

Applicant(s)

GRANFORS ET AL.

Examiner

Chih-Cheng Glen Kao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: (Fig. 3, #90) and (Fig. 5, #112). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-3 and 5-20 are rejected under 35 U.S.C. 103(a) as being obvious over Kump et al. (US Patent Publication 2003/0169850) in view of McDaniel et al. (US Patent 4996413) and Granfors et al. (US Patent 5452338).

2. With regards to claims 1, 10, and 16, Kump et al. discloses an x-ray system and method comprising an x-ray source for exposing (Fig. 1, #120), a detector comprising detector elements storing levels of charge (Fig. 1, #115), and including first and second offset image data to be

selected indicative of selected first and second modes of operation, respectively, (Fig. 4, #416 and 418) to process an image (Fig. 1, #140, Paragraph 0018, and Claim 1).

However, Kump et al. does not seem to specifically disclose an image processor and image memory.

McDaniel et al. teaches an image processor (Fig. 1, #28). Granfors et al. teaches image memory (Fig. 1, #14).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to include the device of Kump et al. with the image processor of McDaniel et al., since one would be motivated to include a processor for processing and enhancing the x-ray image signal (col. 3, lines 19-21) as shown by McDaniel et al.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to include the device of Kump et al. with the memory of Granfors et al., since one would be motivated to include memory to store an offset image for use in correcting an image (Abstract) as shown by Granfors et al.

2. With regards to claims 2, 6, 8, 12, 15, 17, and 19, Kump et al. in view of McDaniel et al. and Granfors et al. suggest a device and method as recited above. Kump et al. further discloses a system controller choosing an offset dark image based upon a mode of operation (Paragraph 0018 and 0039).

However, Kump et al. does not disclose a recursive filter updating offset images when the detector is not exposed to x-rays.

Granfors et al. further teaches a recursive filter updating the offset image when the detector is not exposed to x-rays (Abstract).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to include the device of Kump et al. in view of McDaniel et al. and Granfors et al. with the recursive filter, since one would be motivated to include this for correcting an image (Abstract) as shown by Granfors et al.

3. With regards to claims 3, 13, and 20, Kump et al. further discloses a mode using each of the detector elements and a second mode using a portion of the elements (Paragraph 0036 and Fig. 2, #115).

4. With regards to claim 5, Kump et al. in view of McDaniel et al. and Granfors et al. suggest a device as recited above. Kump et al. further discloses choosing an offset image that was stored based upon a mode of operation (Paragraph 0018).

However, Kump et al. does not disclose subtracting the offset image from an incoming image.

Granfors et al. further teaches subtracting the offset image from an incoming image (Fig. 1, #22).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to include the device of Kump et al. in view of McDaniel et al. and Granfors et al. with the subtractor, since one would be motivated to include this for correcting an image (Claim 1) as shown by Granfors et al.

3. With regards to claims 7 and 18, Kump et al. further discloses combining the levels of charges stored by a plurality of detector elements (Paragraph 0036).

4. With regards to claim 9, Kump et al. further discloses identifying when the detector is exposed to x-rays and choosing an offset image based on a mode of operation (Claim 1).

5. With regards to claim 11, Kump et al. further discloses a second mode of operation with a second offset image, wherein said first and second images comprise successive images (Claim 1).

6. With regards to claim 14, Kump et al. further discloses the first offset image comprising a set of values representing said levels of charge (Fig. 2, #115).

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being obvious over Kump et al. in view of McDaniel et al. and Granfors et al. as applied to claim 1 above, and further in view of Ivan et al. (US Patent 5877501).

Kump et al. in view of McDaniel et al. and Granfors et al. suggest a device as recited above.

However, Kump et al. does not disclose an operator interface for choosing a mode of operation and a system controller identifying the mode of operation, said controller choosing based on said mode of operation.

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Ivan et al. teaches an operator interface for choosing a mode of operation and a system controller identifying the mode of operation and choosing based on said mode of operation (col. 4, lines 16-19).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to include the device of Kump et al. in view of McDaniel et al. and Granfors et al. with an operator interface of Ivan et al., since one would be motivated to include this operator interface or power switch to save energy when turning off the image detector and to turn on when using the image detector as implied from Ivan et al. (col. 4, lines 16-19).

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (703) 605-5298. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (703) 308-4858. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



gk



EDWARD GLICK  
SUPERVISORY PATENT EXAMINER